

**REMARKS**

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested.

The applicant and the undersigned wish to thank Examiner Barney and SPE Scherbel for the courtesies extended during the interview of March 10, 2005. The arguments presented during the interview are repeated herein for the record.

Claims 1, 2 and 3 have amended above for clarity of dimension/direction as suggested by SPE Scherbel. Thus, the amendments presented above are not offered in response to the Examiner's prior art rejection(s), but solely for clarity to avoid any potential §112, second paragraph issue. .

At the outset, it is respectfully submitted that the finality of the January 10, 2005 Official Action was premature. In this regard, the Examiner withdrew the rejections made in the first Official Action and newly rejected claims as anticipated by or obvious from Foertsch. Although the Examiner asserted that the new grounds of rejection were necessitated by applicant's amendment, it is noted that independent claims 2 and 3 and the claims dependent therefrom were not amended in the response to the Examiner's first Office Action. Therefore, the new rejection of those claims could not have been necessitated by applicant's amendment. Even with respect to claim 1, it is noted that the amendment to that claim was directed purely to matters of form so that the amendment should not have necessitated the Examiner's new rejection either. Irrespective, because the finality of the Action was improper with respect to claims 2 and 3, the entire Action should have been made non-final. It is therefore respectfully requested that the finality of the January 10, 2005 Official Action be withdrawn.

An Information Disclosure Statement was filed with the Response of December 2, 2004. However, an initialed and dated copy of the Information Disclosure Statement

Form PTO-1449 was not returned with the Examiner's Action. Please now return an initialed and dated copy the PTO-1449 so that the undersigned's file is complete.

Claims 1-10 have now been rejected under 35 USC 102(b) as being anticipated by Foertsch. Applicant respectfully traverses this rejection.

In an example embodiment of the present invention, as recited in claim 1, the valve body has an inner surface defining a fluid passage whose cross-sectional area decreases towards the downstream side. Further, an imaginary line along that inner surface of the valve body directly crosses the plate disposed at the downstream side of the fluid passage. Meanwhile, there are a plurality of through holes defined through the plate that have inlet openings in an area outside a projected area of the downstream end opening of the inner surface of the valve body and further the through holes are radially disposed so as to have a displacement with respect to the crossing point of the imaginary line. In contrast to the invention specifically recited in claim 1, Foertsch does not disclose a valve body having an inner surface that decreases toward downstream side and wherein an imaginary line along that inner surface directly crosses the plate at a crossing point. Rather, if an imaginary line is extended from the inclined surface of Foertsch, that imaginary line crosses the valve body before crossing the plate. Furthermore, that imaginary line would also cross an imaginary line from the diametrically opposite inclined surface prior to crossing the plate. Thus, the Foertsch reference does not anticipate a valve body as claimed in combination with a plate as claimed. In this respect, with the structure recited in claim 1, the imaginary line directly crosses the plate, without crossing the valve body. In illustrated example embodiments, said imaginary line does not cross any other imaginary line either. This allows lateral flow on the plate to advantageously be created in the embodiment of the invention. In the structure of Foertsch, it would appear that lateral flow cannot be effectively generated to flow along the surface of the plate.

Claims 2 and 3 characterized a chamber formed just above the through holes as defined by a flat surface of the plate that extends substantially parallel to the plate and by a depression in the valve body such that the inlet of the through holes faces a bottom surface of the depression of the valve body.

In contrast to the invention recited in claims 2 and 3, Foertsch does not disclose any depression in the valve body itself defining the chamber. Rather, a depression is formed in the plate. It should be noted in this regard that the plate is at the outset made small in thickness in order to atomize the fuel. Therefore, when a depression is formed in the plate itself, as taught by Foertsch, the dimensional accuracy of the depression may decrease and the mechanical strength of the plate is decreased as well. The invention provides an advantageous structure that defines a chamber vertically above the through hole(s) without compromising the dimensional accuracy or mechanical strength of the plate.

For all the reasons advanced above, it is respectfully submitted that claims 1, 2 and 3 are not anticipated by nor obvious from Foertsch. The claims dependent therefrom are allowable over Foertsch for the same reasons.

Claim 11 was rejected under 35 USC 103 as unpatentable over Foertsch in view of Zimmermann. Applicant respectfully traverses this rejection.

Claim 11 is submitted to be patentable over Foertsch for the reasons advanced above. The Examiner's further reliance on Zimmermann does not overcome the deficiencies of Foertsch noted above.

As noted above, in an example embodiment of the invention, the imaginary line among the (inclined) inner surface of the valve body directly crosses the plate. Lateral flow is further generated from that point and is introduced into the jet nozzle along the surface of the plate. As further recited in claim 1, the chamber just above the through holes is defined by an approximately flat surface of the plate and that chamber is larger

than a downstream end opening of the inner surface of the valve body, so that there is a flat plate surface defining the chamber that is larger than a downstream end opening of the inner surface of the valve body.

Foertsch also provides a plate that is flat over an area larger than the downstream end opening, but fails to meet other limitations of claim 1.

Zimmermann discloses a step-shaped plate. As a consequence, any lateral flow generated on the surface of the Zimmermann plate is not introduced into the jet nozzle as a lateral flow. Thus, Zimmermann teaches an entirely different fluid flow arrangement than either the invention or Foertsch. Moreover, even if Zimmermann teaches crossing imaginary lines as asserted by the Examiner, which applicant does not concede because of the stepped opening Zimmermann teaches, that is not *ipso facto* that it would be obvious to modify Foertsch in any way. In this regard, as noted above, the plate structure of Zimmermann is very different from the plate structure of Foertsch and the configuration of the fluid passage of the valve body in relation to the plate and the openings through the plate also differ from that of Foertsch. Moreover, neither the structure depicted therein nor the accompanying disclosure of Foertsch and/or Zimmermann appears to provide any motivation to the skilled artisan, without the benefit of applicant's disclosure, to modify Foertsch in view of any characteristic feature of Zimmermann.

As the CAFC has said, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. ACS Hospital Systems v Montefiore Hospital, 221 USPQ 929, 933 (Fed. Cir. 1984). There must be a suggestion in the art relied upon to use what one reference discloses in or in combination with the disclosure of the other reference or references relied upon by the Examiner. In re Grabiak, 226 USPQ 870, 872 (Fed. Cir. 1986).

In establishing a *prima facie* case of obviousness under 35 U.S.C. § 103, it is incumbent upon the Examiner to provide a reason why one of ordinary skill in the art would have been led to arrive at the claimed invention from the prior art. Ex parte Clapp, 227 USPQ 972 (BPAI 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from applicant's disclosure. See, for example, Uniroyal, Inc. v. Rudkin-Wiley Corp. 837 F.2d 1044, 7 USPQ2d 1434 (Fed. Cir. 1988).


Because none of the references of record discloses the details of the claimed invention lacking in the primary reference, nor the unique advantages thereof, there can be no suggestion to modify the structure to contain those features. See In re Civitello, 339 F.2d 243, 144 USPQ 10, (CCPA 1964).

For all the reasons advanced above, reconsideration and withdrawal of the rejection based on Foertsch and Zimmermann is respectfully requested.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

Respectfully submitted,

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